

Application Control Number: 09/910,093  
 Art Unit: 2654

Docket No.: 2001-0226

**Amendments to the Specification:**

Kindly amend the last complete paragraph on page 2 of the specification as follows:

It is well known that finite state techniques have proven invaluable in a variety of natural language processing applications. A tool useful in natural language processing is the weighted finite state automata and weighted finite state transducer. Such a transducer is described in U.S. patent applications 6,032,111 to Mehryar Mohri, assigned to AT&T Corp., and which contents are incorporated herein by reference. Further background ~~maybe~~ may be gained from "The Design Principles of a Weighted Finite-State Transducer Library" by Mehryar Mohri, Fernando Pereira and Michael Riley, available on the Internet at: <http://citeseer.nj.nec.com/mohri00design.html>; and "Weighted Automata in Text and Speech Processing", by Mehryar Mohri, Fernando Pereira, and Michael Riley, found on the Internet at: <http://citeseer.nj.nec.com/mohri96weighted.html>. The contents of these two publications are incorporated herein by reference for background information.

Kindly amend the second complete paragraph on page 4 of the specification as follows:

Furthermore, each state  $t$  has an initial weight and a final weight. In a weighted transducer, each transition  $t$  has also an output label  $o(t) \in \Delta^*$  where  $\Delta$  is the transducer's output alphabet. A state  $q$  is initial if  $i(q) \neq \bar{0}$ , and final if  $f(q) \neq \bar{0}$ . For more information on the mathematical operations of the equations ~~disclosed~~ disclosed herein, see Werner Kuich and Arto Salomaa, Semirings, Automata, Languages, number 5 in EATCS Monographs on Theoretical Computer Science, published by Springer-Verlag, Berlin, Germany, 1986. A person of ordinary skill in the art will understand the algebraic operation and symbols used in the formulas disclosed herein. Therefore, an explanation of each algebraic operator and of the various terms used in the formulas is not provided.

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Kindly amend the third complete paragraph on page 12 of the specification as follows:

The first embodiment is illustrated with several semirings. Also described is an input  $\varepsilon$ -normalization method for weighted transducers, which is based on the general shortest-distance algorithm. The  $\varepsilon$ -normalization method, which works with all semirings covered by a specific framework, admits an on-the-fly implementation. An on-the-fly implementation allows one to use the algorithm with a lazy evaluation. In other words, instead of removing all the epsilons of the input machine all at once, one can remove only the epsilons that belong to the paths of the input ~~a machine~~ that one might be interested in. So, when some part of the input machine A is read, the output B (w/o epsilons) is constructed just for that part of A.